

CLAIM AMENDMENT

1-15,17 (original)

16. (currently amended)

18.(new): The apparatus of claim 1 wherein said force collection means comprising a reservoir of working fluid is spun by a live load so a flow of fluid is created.



I claim:

1. An apparatus for converting the energy of a live load except the energy of ocean waves into electrical energy comprising:
 - 5 a. a force collection means comprising a reservoir of working fluid wherein said working fluid is operatedly connected to a live load,
 - b. an energy conversion means operatedly connected to said force collection means and comprising a Bourdon tube, an electric gen-
10 erator and a gear transmission means for transmitting motion of said Bourdon tube to operate said generator.
2. The apparatus of claim 1 wherein said energy conversion means comprises a C-type Bourdon tube whose inlet end is fixedly attach-
ed to a fixed support upon which is mounted a first shaft and a
15 first spur gear and whose other end is affixed to a moveable cylinder located as part of a Scotch Yoke affixed to said first spur gear in a radial direction, said Bourdon tube and said Scotch Yoke located in a chamber filled with working fluid with an inlet opening, said chamber's dimensions partly defined by
20 said first spur gear face to which said Scotch Yoke is attached through a rotateable seal so as said spur gear is made to rotate said chamber does not rotate, a second spur gear mounted on a second shaft, said second gear made to mesh with said first gear and having mounted on it concentrically a ratchet and pawl in a
25 first direction and a third spur gear mounted on said second shaft, a fourth spur gear made to mesh with said first gear and

mounted on it concentrically a ratchet and pawl in an opposite direction to said first direction, said fourth spur gear mounted on a third shaft, a fifth spur gear mounted on said third shaft and made to mesh with said third spur gear so as said Bourdon tube 5, is made to change shape said third shaft will be made to rotate in a single direction, said third shaft made to drive an electric generator.

3. The apparatus of claim 1 wherein said live load is a motor vehicle and said reservoir is beneath a road surface with a steel 10, channel whose legs are in contact with said reservoir's top surface with the other end of said leg in contact with the underside of said asphalt and wherein said chamber of claim 2 is excluded from said energy conversion means so as a said vehicle is made to move over said channel the pressure on working fluid within said 15, reservoir is made to vary and drive said electric generator.

4. The apparatus of claim 3 wherein said live load is a walking human being, said road surface is a rug on top of a plywood floor with suitable blocking between said plywood floor and subflooring located beneath said reservoir as a support for 20, said reservoir so as said human being walks over said channel and presses down on said channel the pressure on working fluid within said reservoir is made to vary and drive said generator.

5. The apparatus of claim 1 wherein said force collection means further comprises:

25, a. a piston sleeve closed on both sides defining the walls of a reservoir of working fluid,

- b. a piston within said sleeve dividing said sleeve into two compartments,
- c. a piston shaft fixedly attached to said piston and extending through an end wall of said sleeve,
- 5, d. 0-rings between said shaft and said wall and between said piston and said sleeve to prevent leakage of working fluid.
- e. water completely filling both said compartments and serving as working fluid,
- f. check valves through the walls of each said compartment
- 10 to allow each said compartment to be filled with water, and
- g. two exit tubes from each compartment
- so as said piston shaft is made to push on and pull on said piston water pressure in each said compartment and said exit tube is raised and lowered accordingly.
- 15, 6. The apparatus of claim 1 wherein said force collection means comprises a flexible pole extended vertically from the ground with a revolveable sail affixed atop said pole the bottom of said pole extending below ground and attached to said piston shaft of claim 1 said pole pivoted at ground level so as wind presses against
- 20, said sail said water pressure in said exit tube is made to vary accordingly and drive said electrical generator.
7. The apparatus of claim 6 wherein said force collection means comprises said flexible pole affixed to a tree trunk and said sail comprises branches and leaves of said tree so as wind presses
- 25, against said branches and leaves said water pressure in said exit tube of claim 5 is made to vary accordingly and drive said electrical generator.

8. The apparatus of claim 6 wherein said force collection means comprises said flexible pole located through the vertical axis of a tall building, said pole being attached to the roof of said building so as wind pressure causes said building to sway
5, said water pressure in said exit tube of claim 5 is made to vary accordingly and drive said electric generator.

9. The apparatus of claim 6 wherein said force collection means comprises a flexible pole extended vertically from the hull of a sailboat as a mast and wherein said machinery of claim 5
10, is operatedly attached to running and standing rigging extended from said hull of said sailboat so as wind presses on a sail attached to said mast then said water pressure in said exit tube of claim 5 is made to vary accordingly and drive said electrical generator.

15 10. The apparatus of claim 6 wherein said force collection means comprises a flexible pole extending rearward of the end of a vehicle section selected from an aircraft wingtip, ship, hull and jet engine, the root of said pole extended to within said vehicle section and attached to said piston shaft, said pole pivoted at
20 the surface of said vehicle section so as live load and drag causes said pole to flutter said water pressure in said exit tube of claim 5 is made to vary accordingly and drive said generator.

11. The apparatus of claim 5 wherein said force collection
25 means comprises a suspension cable of a bridge fixedly attached to said piston shaft and said piston sleeve is fixedly attached to said bridge so as said bridge is subject to live loads said water pressure in said exit tube is made to vary accordingly and drive said electrical generator.

12. The apparatus of claim 1 wherein said force collection means comprises a container of weight in a vehicle moveably fixed to said vehicle, said container being double walled and with the force collection means of claim 5 located between said walls, said piston 5, shaft containing a ball bearing located on said shaft's distal end and resting on the outside of the inner wall of said double wall so as said weight in said vehicle is made to move said electrical generator will be driven, producing electrical energy.

13. The apparatus of claim 11 wherein said force collection means 10 comprises a cable stretched along the top of a keel of a ship and wherein a first section of said cable is fixedly attached to the stern end of said keel and said piston shaft and the other section of said cable is fixedly attached to the bow end of said keel and said piston sleeve so as said cable is stretched 15 by hogging of said keel said water pressure in said exit tube is made to vary accordingly and driving said generator.

14. The apparatus of claim 13 wherein said cable is stretched diagonally across said ship's frame so as said ship's hull is racked 20 as said hull is made to roll said water pressure in said exit tube is made to vary accordingly and drive said electrical generator.

15. The apparatus of claim 5 wherein said piston sleeve is fixedly attached to a shock absorber of a first railway car and said piston shaft is fixedly attached to a shock absorber of 25 a succeeding railway car so as each railway car is moved at a different velocity by inertia said water pressure in said exit tube is made to vary accordingly and drive said generator.

16. The apparatus of claim ¹⁸1 wherein said force collection means further comprises an inflated vehicle tire mounted on a wheel and axle. said axle having a hole through its concentric axis through which are located two tubes with rotateable seals mounted so the end section of each tube may be rotated while the connected end may not be rotated, a first tube being made to emerge from the end of said axle and terminate with said first tube open end near the rim of said wheel within the air compartment of said tire and a second said tube made to emerge from the end of said axle and made to terminate with said second tube's open end near the underside of the tread of said tire within the air compartment of said tire said open end faced in the same direction said tire is made to spin by forward motion of said vehicle, said first tube also made to terminate in said inlet opening of said chamber of claim 2 and said second tube made to terminate in the inlet opening of said Bourdon tube of claim 2, said tubes being each divided into a first section located concentrically within an axle of a vehicle with tires,

a second section located as said first section and joined to said first section by a sealed rotateable joint so said second section may be rotated with said axle as said is not rotated, said second tube section terminating within a sealed thrust bearing encircling a tire wheel fixedly attached to said axle, and a third section of said first tube attached to the outer

ring of said thrust bearings) so air may pass through all three sections of said tube, said third section connected to a weight so as said tire is made to spin said third section will remain in a downward position due to said weight so pressure will be 5, changed accordingly in all three sections,

said wheel having mounted on it ridges normal to said tire's direction of rotation and within said tire's air compartment so as said tire is spun air in said compartment is made to accelerate more rapidly, and as said tire is made to spin a pressure 10 difference is made between the interior of said Bourdon tube and the interior of said chamber, the changing velocity of said spinning causing said electric generator to be driven.

17. The apparatus of claim 1 wherein said force collection means comprises:

- 15 a. a hollow dome,
 - b. a hollow shaped object selected from the group of (1.) dome and (2.) cone,
 - c. said hollow dome and said hollow shaped object fixedly attached to each other along their respective rims, said rims being spaced 20 apart and connected intermittently by suitable means,
 - d. a hole in the center of said hollow dome, oriented so said hole is parallel with the earth's surface,
 - e. a cone shaped object located near said hole and within said anterior dome and operable attached to said piston shaft of 25 claim 2,
- so as fluid is made to enter said hole said fluid will press on said cone and activate the invention, driving said electrical generator.